

Name _____

Advanced Cardiac Life Support Course Therapeutic Modalities Test

UC Irvine
Department of Emergency Medicine
April 2015

Updated to conform with 2010 AHA/ACLS Guidelines

Important instructions:

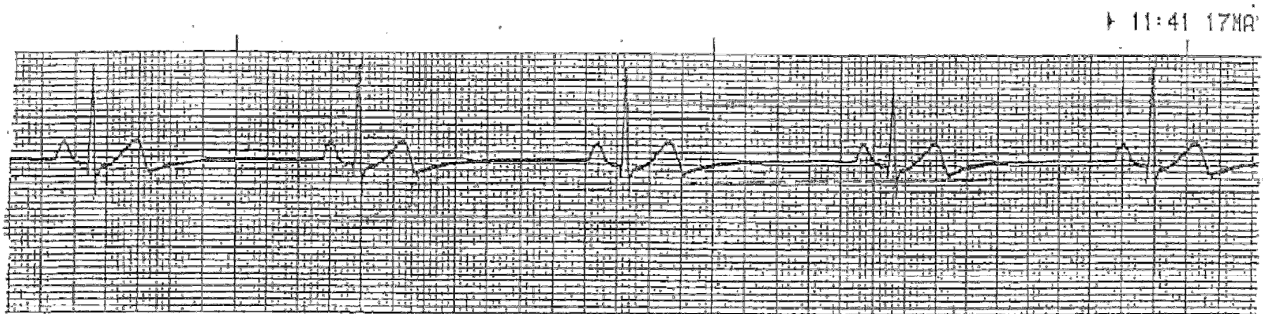
1. “Therapeutic intervention” means NOT a drug, but some device or procedure (like oxygen).
2. Give all defibrillation/cardioversion energy levels (joules) for biphasic defibrillators.
3. You only need to give drug doses if specifically asked for them. Otherwise, just list the drug name.



ADVANCED CARDIAC LIFE SUPPORT COURSE

CASE #1

A 70 year old female had a syncopal episode at a shopping center. She says she feels dizzy and denies any chest pain. Her blood pressure is 72/40, and her pulse is 36. The electrocardiogram reveals the following:



- 1.1 What is the rhythm? _____
- 1.2 What is the first essential drug to be given? Identify drug and dose.

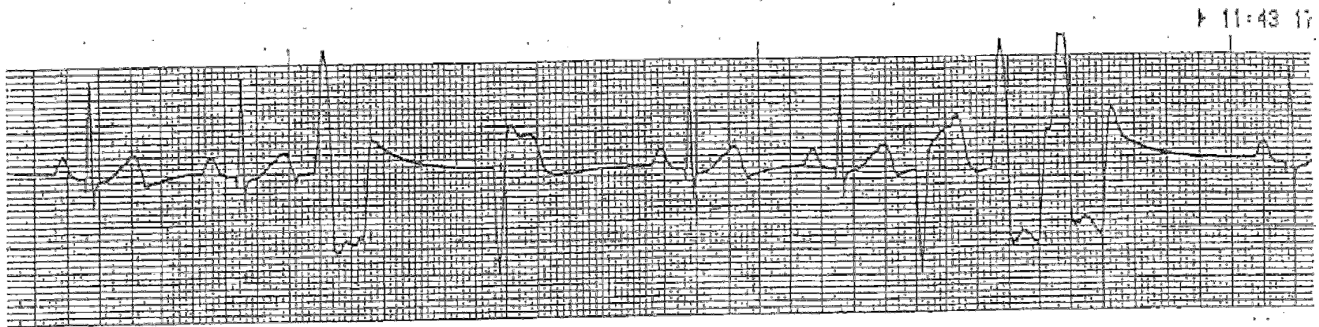
- 1.3 What therapeutic intervention could be instituted if the patient does not respond to your first drug therapy?

- 1.4 What treatment should be used if the therapeutic intervention above is successful?

- 1.5 List the second and third line drug therapy indicated in this scenario to improve the heart rate.

CASE #2

A 40 year old man who weighs 70kg presents to the emergency department with chest pain, nausea, and diaphoresis of sudden onset. The vital signs are: B/P 120/55, with an irregular pulse. The electrocardiogram demonstrates the following:



2.1 What is the rhythm? _____

2.2 Why is this patient with chest pain having this rhythm?

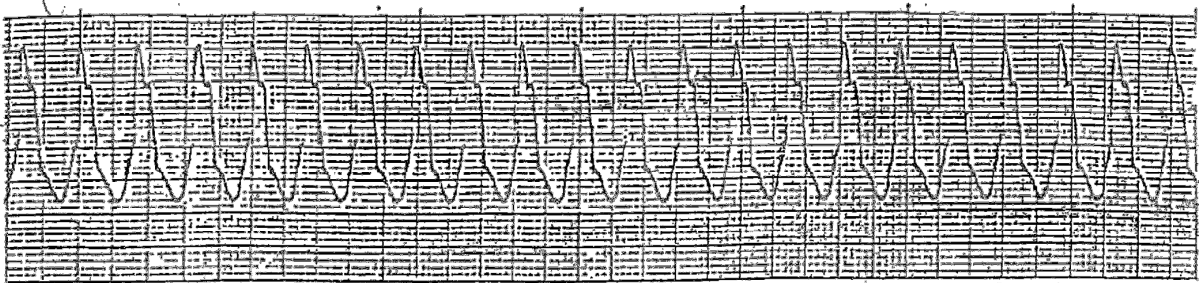
2.3 Name three of the four drugs or therapeutic interventions you (not a consultant) would use to treat the cause of the rhythm that you listed in 2.2 above in the next 10 minutes?

2.4 If you treat the cause of this rhythm, and the patient still has it, what antiarrhythmic medications could you use to treat it? Name three medications and their doses for a 70kg man:

DRUG	Loading Dose	Drip Dose
_____	_____	_____
_____	_____	_____
_____	_____	_____

CASE #3

A 72-year-old male with a history of myocardial infarction one month ago, who weighs 70kg, is admitted to the ICU. On admission, his initial blood pressure is 132/80. Your assessment reveals an appropriate level of consciousness, that his skin is warm and dry, and he is not having chest pain or shortness of breath. He has a regular, weak pulse. His rhythm is shown:



3.1 What is the rhythm? _____

3.2 What is your first choice for drug therapy? Identify the drug and dose.

3.3 If your initial drug therapy is successful (the rhythm terminates), what should you do next. Identify drug and dose:

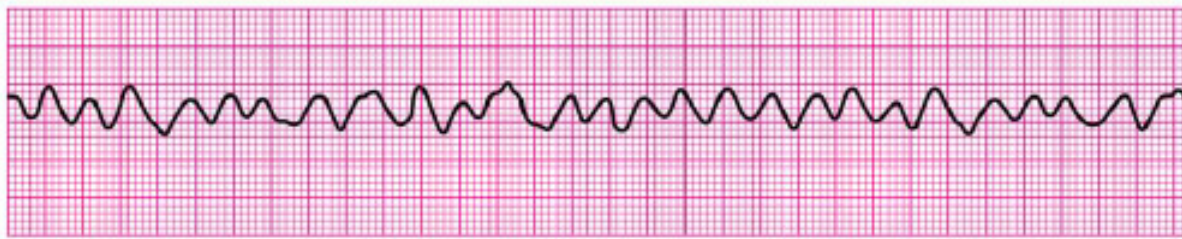
3.4 If your initial drug therapy is NOT successful, or the patient becomes hypotensive (65/30) with poor skin signs and confusion, but maintains a pulse, what therapeutic intervention should you do?

Describe dose sequence for this intervention:

3.5 What medication should you give prior to this intervention. The patient's blood pressure at this time is 110/70 and the patient is awake and alert. Identify one drug and dose:

CASE #4

The Emergency Department janitor who weighs 70kg., suddenly collapses in the emergency department. The staff ascertains that the janitor is in cardiopulmonary arrest. The staff immediately begins chest compressions. You attach the patient to the electrocardiogram monitor, and the following is revealed:



4.1 What is the rhythm? _____

4.2 The crash cart and defibrillator are immediately available. The arrest has been in progress for less than 2 minutes. Your first therapeutic intervention should be: (identify device and dose)

4.3 Your therapy is NOT successful. What three interventions (not drugs) do you do now?

4.4 After 2 minutes, the patient still has no pulse after you do the above three interventions. What two pressor drugs could be given?

_____ Dose _____
and/or
_____ Dose _____

4.5 After two minutes, what therapeutic intervention and dose should be done next after the pressor drug(s) is (are) circulated?

4.6 After two more minutes, the patient still has no pulse and the initial rhythm remains. What antiarrhythmic drugs could be given next? List preferred drug first.

Drug	Dose
_____	_____
_____	_____

CASE #5

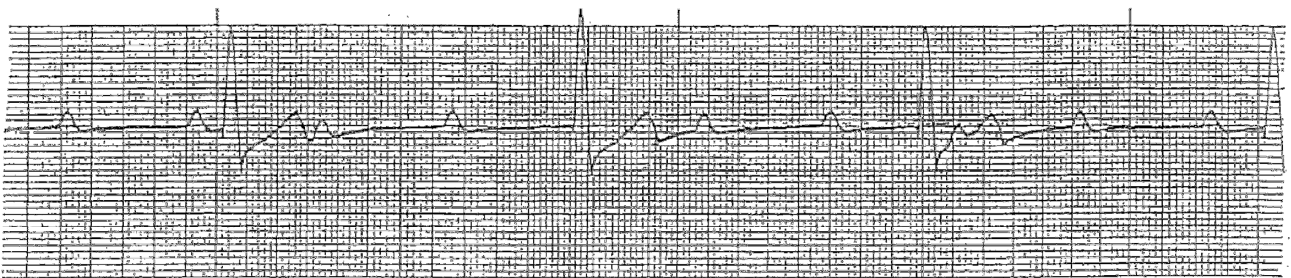
An 80 year old male who weights 70 kg., is in the emergency department. He already has an intravenous line. He suddenly becomes cyanotic, and loses pulse, he has no B/P and makes only irregular, weak respirations for 15 seconds and then stops breathing. The staff initiates chest compressions. The airway has been opened and rescue breathing is being done. The electrocardiogram monitor reveals:
(The rhythm is not fine ventricular fibrillation)



- 5.1 What is the rhythm? _____
- 5.2 Describe the drug therapy recommended by the American Heart Association for this patient?
- Drug: _____
- Dose and route: _____
- Interval: _____
- 5.3 List 5 things that a team leader should be looking for as a cause of the patient's condition?
1. _____
 2. _____
 3. _____
 4. _____
 5. _____
- 5.4 After 30 minutes of resuscitation the rhythm persists. The drug in #5.2 has been administered without successful results. What decision could be considered at this time?

CASE #6

A 40 year old male presents to the emergency department with nausea and diaphoresis of sudden onset. The blood pressure is 70/50 and the patient has a slow weak pulse. The electrocardiogram reveals the following:



6.1 What is the rhythm? _____

6.2 List the therapy sequence described by the American Heart Association for this rhythm. List three drugs that would help the situation, and therapeutic intervention.

First drug and dose: _____

Therapeutic intervention: _____

Second and third line drugs: _____

CASE #7

A 65 year old female, who weighs 70 kg., has been brought to the emergency department by the paramedics. She was in “full arrest” while in the field with no respirations, no pulse, no blood pressure.

At this time, you have just hooked up the electrocardiogram leads, and on the monitor is observed normal sinus rhythm. However, she does not have a pulse, she does not have a blood pressure and she is apneic.

7.1 What is the clinical situation/condition called?

7.2 List 3 possible underlying causes of this rhythm that would require treatment to increase the chance of successful resuscitation.

7.3 Identify the drug and dose to be utilized according to the guidelines of the American Heart Association that may be helpful.

END TEST